

From: [Powell, Greg](#)
To: [Myers, Craig](#); [Dhieux, Joyel](#); [Wall, Dan](#)
Subject: 1st Cut Ditch flush
Date: Thursday, August 13, 2015 5:05:36 PM
Attachments: [MEMORANDUM Irrigationflush.docx](#)

Hoping Dan can provide some info on sediments.

Greg Powell

USEPA-Environmental Response Team

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Facts do not cease to exist because they are ignored.

MEMORANDUM:

August 13, 2015

RE: Flushing of the Consolidated Animas Ditch- West Side-August 12, 2015

Thru: Craig Meyers EPA-IC;

TO: Area Command

FROM: Greg Powell EPA-ERT

A controlled release of Animas River water occurred to the Consolidated Animas Ditch on August 12, 2015. The purpose of the release was to evaluate the potential to re-suspend ferrous sediments in order to facilitate removal of sediment deposition associated with the Gold King mine. The removal of the sediment would enable water users to commence irrigation in order to water crops, pastures, cattle, and restore fisheries water flow. Support was provided by personnel from the water control district.

Prior to opening the control gates water samples were collected from the Animas River and irrigation ditch by a representative from the State of Colorado. The pH of the water was greater than 7.0 standard units and the dissolved oxygen levels were over 7.0 mg/l. Conductivity was over 300 $\mu\text{S}/\text{cm}$.

The control gate was opened two inches producing a flow of approximately 8 cfs to initiate flushing. There was flow into the ditch prior to the release due to water short circuiting around the control gate; therefore, flow was reduced but never halted through the irrigation system when the Gold King slug passed. The reduced flow allowed small volumes of mine sediments to be deposited in the main channel of the western ditch.

Approximately 200 feet downstream of the control gate real time monitoring and water samples were collected by the State of Colorado. An increase in turbidity was noted at the start of the water release, but turbidity improved after a few minutes. Dissolved oxygen and pH levels were similar to pre-release conditions; however, the conductivity decreased to approximately 250 $\mu\text{S}/\text{cm}$.

Two releases were conducted from the control gate. The flow was restricted to pre-release conditions after each release. Stream and sediment conditions were noted once "normal" ditch conditions were obtained. The flushing resulted in an approximate twenty percent reduction in ferrous sediments covering the stream channel (visual assessment). Iron and manganese precipitation on stream sediments has been occurring prior to the Gold King release and this precipitate may have impacted the estimate of the effectiveness of the sediment removal flush.

Preliminary sediment data that was released on August 12, 2015 indicate*****

The Animas Consolidated Ditch Company is a shareholder owned company where appropriative water rights are distributed in shares. The shares represent specified volumes of irrigation water allocated to each user. It is my understanding that the State of Colorado has no authority over the exercise of appropriative water rights. Based on field observations and sediment data and the fact the irrigation ditch is part of the active river system it was deemed appropriate to renew flows in order to establish flows to the water owners.